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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,508	10/30/2003	Shirou Nakano	K06-163681M/AT NGB.326	5775
21254	7590	09/07/2006	EXAMINER	
MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			ARTHUR JEANGLAUD, GERTRUDE	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,508

Applicant(s)

NAKANO ET AL.

Examiner

Gertrude Arthur-Jeanglaude

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 is/are allowed.
- 6) ☒ Claim(s) 1-13 and 17-25 is/are rejected.
- 7) ☒ Claim(s) 14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/1/06, 5/16/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, 17-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (U.S. Patent No. 5,116,254) in view of Uenuma et al. (U.S. Patent No. 20030055545).

Sano et al discloses a steering apparatus for vehicles comprising a steering mechanism (2, 3) for turning a steerable tired-wheel, a steering actuator (8) for providing a steering force to the steering mechanism (2, 3), a load detecting unit (26, 27, 28, 29) for detecting a tire load, which is a load applied to a tke of a vehicle (1 00), and a steering control unit (12) for controlling the steering actuator according to the tire load detected by the load detecting unit. See figures 1, 8, and 11 – 12.

Sano et al also discloses that the load detecting unit comprises an air pressure detecting unit (16, 17, 1 8, 19) for detecting the air pressure of the tire. See figures 8, 9, and 10. In addition, Sano et al discloses that the load detecting unit comprises a stress detecting unit for detecting a stress applied to the tire and that the stress detecting unit preferably includes a left side stress detecting unit and a right side stress

detecting unit for detecting stresses applied to the left side and the right side of the tire respectively when viewed toward the direction of travel of the vehicle. See figures 4-7 and 13-18 and column 2.

Furthermore, Sano et al discloses a steering direction detecting unit for detecting the steering direction of the vehicle, wherein the steering control unit controls the steering actuator based on the steering direction of the vehicle detected by the steering direction detecting unit and the stresses detected by the left side stress detecting unit and the right side stress detecting unit, respectively. See columns 7, 8, and 10.

According also to Sano et al, the vehicle steering apparatus comprises a reaction force actuator for providing an operation reaction force to the operating member (figure 1 and column 4), a load detecting unit for detecting the tire load which is applied to the tire of the vehicle (figure 12), and a reaction force control unit for controlling the reaction force actuator according to the tire load detected by the load detecting unit (figures 11, 12 and columns 14-15).

Sano et al further discloses an actuator for applying a force to the operating member for transmitting information to the driver, at least one sensor for detecting the physical amount relating to the movement of the vehicle and . outputting the detection signal according to the detected result, a signal analyzing unit for analyzing the detected signal output by the sensor and supplying an analytical solution, and a control unit for controlling the actuator based on the analytical solution supplied from the signal analyzing unit. See figures 1-2, 5, 8-9 and 11-12.

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Sano et al. fail to specifically disclose a steer by wire system or a steering actuator for providing a steering force to the steering mechanism. In an analogous art, Uenuma et al. disclose a vehicle steering control system wherein it discloses a steering actuator for providing a steering force to the steering mechanism (See paragraph 0011). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Sano with that of Uenuma et al. by having a steering actuator for providing a steering force to the steering mechanism in order to provide an accurate information on a roughness degree of road surface.

Allowable Subject Matter

Claims 14 and 15 would be allowable if rewritten to overcome the rejections) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim 16 is allowed.

The prior art do not particularly disclose that the reaction force control unit controls the reaction force actuator based on the steering direction of the vehicle detected by the steering direction detecting unit. and the stresses applied on the outer portions of the tire when viewed in the direction of travel detected by the left side stress detecting unit and the right side stress detecting unit. The prior art also fail to particularly disclose a first determining unit for determining whether

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or not the analytical solution analyzed by the signal analyzing unit conforms a predetermined first reference condition, and a teaching unit for providing, when the analytic solution of the signal analyzing unit conforms the first reference condition, a teaching corresponding to the result of determination to the driver; and a second determining unit for determining whether or not the analytical solution analyzed by the signal analyzing unit conforms a predetermined second reference condition, wherein when the analytic solution of the signal analyzing unit is determined to conform the second reference condition by the second determining unit, the control unit controls the actuator according to the analytic solution.

Response to Arguments

Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gertrude Arthur-Jeanglaude whose telephone number is (571) 272-6954. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gaj


GERTRUDE A. JEANGLAUDE
PRIMARY EXAMINER